

also observations on the ecologic station, and whether it is associated in life with *reclusiana*.

Neveritae having a grooved umbilical callus are found nearly all around the Pacific, from Japan to Australia on the western side as well as on our shores. It might be well to segregate them as a new section, GLOSSAULAX, with *N. reclusiana* as type.

It is hoped that Californian naturalists who have opportunity to collect the several forms discussed above will send in the results of their observations.

PLATE 6

- Fig. 1. *Neverita reclusiana* (Dh.). Typical. San Pedro.
Figs. 2-4. *Neverita r. imperforata* 'St.' Dall. Newport Bay. Fig. 3 is the neotype. 147436.
Figs. 5-6. *Neverita alta* ('Dall' Arnold), Newport Bay.
Figs. 7-9. *Neverita alta* ('Dall' Arnold), Alamitos Bay.

CYPHOXIS RAFINESQUE, A CRETACEOUS TAXODONT IDENTICAL WITH IDONEARCA CONRAD

BY HENRY A. PILSBRY

In his "Prodrome de 70 nouveaux Genres, Etats-Unis d'Amérique", published in *Journal de Physique, de Chimie, d'Histoire Naturelle*, vol. 88, June, 1919, Rafinesque defined the 52d genus thus:

"CYPHOXIS. (Biv. foss.) Different du genre *Arca* par valves très bombées, les sommets basilaires bossus, recourbés, séparés par un grand intervalle; un sillon oblique, courbé, extérieur, latéral et postérieur.—Plusieurs espèces, telles que *C. venerina*, *cardites*, *pulla*, *lunula* etc. Dans les couches de grès, de marne, etc."

Herrmannsen referred *Cyphoxis* to *Arca*, a course fol-

lowed by E. Lamy,¹ but without indicating what group of arks it was thought to pertain to.

Rafinesque's four species were not defined, so that *Cyphoxis* has to be treated as a genus without species. There is no fossil ark of the region covered by Rafinesque which meets the requirements of the diagnosis, but it applies in every respect to the casts of *Cucullaea* of the subgenus *Idonearca* Conrad, found abundantly in the Cretaceous marls of New Jersey. At the time Rafinesque wrote, none of the species had been described; but some years later S. G. Morton described *Cucullaea vulgaris* and *C. antrosa*.² The first of these *C. vulgaris* Morton, is now designated type of *Cyphoxis*. If a name based upon a cast is acceptable, *Cyphoxis* will replace *Idonearca* Conrad.

Rafinesque probably picked up these casts, which are common objects in the marl pits, in the course of his rambles in search of plants and shells while he was living in Philadelphia. He appears to have been the first naturalist to notice any Cretaceous shell in the New Jersey marls. The characteristically careless omission of the locality of his fossils caused the find to be overlooked by Morton, Conrad and others who worked on the fauna later.

THE NOMENCLATURE OF ECOLOGICAL VARIETIES

CALVIN GOODRICH

Mr. Frank Collins Baker, in his introduction to Part I of his "Fresh Water Mollusca of Wisconsin", takes issue with those—specified by him as geneticists—who question the power of environment to determine the evolution of species. He says ". . . field zoologists who have observed the multitude of living things in their diverse environ-

¹ Journ. de Conchyl., vol. 55, 1907, p. 1.

² Synopsis of the Organic Remains of the Cretaceous Group of the United States, 1834, pp. 64, 65. Good figures have been given by Whitfield, Brachiopoda and Lamellibranchiata of the Raritan Clays and Greensand Marls of New Jersey, pl. 13. 1886.